

NEVADA FIRES



National Fire Coordination Study



U.S. DEPARTMENT OF AGRICULTURE / FOREST SERVICE / DIVISION OF FIRE CONTROL

FIRE STUDY REPORT

Nevada Fires

Analysis and Study

by

J. W. Jay

Bureau of Land Management

State of Nevada and

Forest Service

Cooperating

August 1964

**Prepared by U. S. Forest Service
Division of Fire Control, Washington, D. C.
For Office of Civil Defense
Under Contract OCD-PS-64-229**

TABLE OF CONTENTS

	Page
I. INTRODUCTION	1
II. FIRE DESCRIPTION	3
III. ANALYSIS	7
IV. CONCLUSIONS	12
V. RECOMMENDATIONS	14
VI. APPENDIX	18

FIRE STUDY REPORT

Nevada Fires

**Bureau of Land Management, State of Nevada and Forest
Service Cooperating**

August, 1964

I. INTRODUCTION

A. Purpose of This Report:

This report covers a study made of a going fire, as a part of Project OCD-PS-64-229. Objectives were:

1. Examination of the coordination effort.
2. Identification of problem areas.
3. To identify efforts that could be adapted to protecting shelters.
4. To identify effective pre-emergency efforts.
5. To relate these efforts to a fire problem where nuclear fallout is involved.
6. To identify additional factors relating to the Project.

B. The Situation:

On Saturday, August 16, 1964, some thirty fire starts resulted from lightning storms in the vicinity of Elko, Nevada. By noon of August 18, reports indicated some 300,000 acres burned or threatened, in six major fires and at least three agencies involved.

The Bureau of Land Management, district headquarters at Elko, was coordinating the suppression efforts.

On August 18, an order was issued by the BLM National Director establishing a coordinating center at Salt Lake City. (See Appendix, Exhibit A, for copy of order.) The Forest Service placed a liaison officer there.

Suppression forces mobilized from 10 states, included 2,500 men, 65 aircraft, and 280 trucks and tractors. Ranchers were reporting losses of livestock, hay, and winter range. The Governor of Nevada declared a state of emergency. Fires were occurring in other western regions.

See Appendix

Exhibit B, Conduct of the Study

Exhibit C, Persons Interviewed

Exhibit D, Nevada Fire Data

II. FIRE DESCRIPTION

These elements describe the fire problem:

- A. Damage - Some 30 lightning fires and two man-caused fires resolved to six major fires within a 35-mile radius of Elko, Nevada. (See Appendix, Exhibit E, for map). In addition, there was one 11,000-acre fire on the Humboldt National Forest near the Idaho line. The BLM fires totaled 278,159 acres with acreage damage totalling \$20 per acre to livestock range, and watershed. Livestock losses were about \$2,000.

Total damage to the land was \$5,563,180.

- B. Fuels - Fuels were generally light. They were cheat grass, and associated grasses, sagebrush, and minor acreages of other brush.

The acreage by cover types as mapped were as follows:

Sagebrush and perennial grasses	225,000 acres
Annual grasses	50,000 acres
Snowberry, aspen, and mountain mahogany	2,000 acres
Pinyon juniper	800 acres
Other	<u>359 acres</u>
	278,159 acres

- C. Topography - The topography varied from flat and gently rolling to steep, rocky, and rock cliffs in the ridges. Many of the ridges had flat tops with sufficient soil for good line building, just as on lower slopes.

- D. Weather - The weather was abnormally severe. The thunderstorm activity was associated with relative humidities of 5% and strong winds changing direction 90° with the passage of the weather front.
- E. Fire Behavior - In these flash fuels and easy topography, the shape and characteristics of the fires were generally determined by the convection forces but during certain periods were determined by wind. The fires characteristically spread rapidly on all fronts. They out-ran all known methods of line construction and attack, except at night and in early morning. The fires were of such extent the first three nights that sufficient men and equipment could not be marshalled to locate, construct, and burn-out lines that would hold. Frontal attacks were ineffective; flanking attacks were partly successful.

The control time was Saturday to Wednesday with very little additional acreage being burned on the fifth day.

The rate of spread is usually high or extreme in this fuel. One crew related how strong convection columns and whirlwinds developed about 6:00 p.m. one day. During a fifteen minute period the fire front moved five miles, according to their best estimate.

There is no doubt that rates of spread on these fires were extremely high. Observers were carefully questioned to verify their statements on the following fires:

Sherman Creek. During the initial period, this fire grew from five acres at time of arrival by the first action crew, to 10,000 acres at the end of one hour. This was on Monday, August 17, starting at 12:15 p.m. The moving front at the end of one hour was estimated at three to four miles wide. The fire moved generally in a northeasterly direction, spreading in front and on both sides.

Boulder. On August 18, between 4:30 and 5:00 p.m. a fast-moving storm-front hit this fire. The fire increased by 2,000 acres in one hour. The five-mile front narrowed down to one mile wide, as the front travelled five miles in 15 minutes. This fast travel was partly due to a large dust devil, or fire whirlwind, that carried and spread it.

Palisades. This fire, on August 17, moved at about the same rate as the Sherman Creek Fire, but on rougher terrain.

F. Firefighting Resources

The resources employed at the peak period totalled as follows:

Firefighters and Overhead	2,500
Bulldozers	52
Vehicles	235
Air Tankers:	22

with maximum of 15 operating at one time

Helicopters:	5 Air Force
	6 Contract

Other Aircraft:

Lead Planes	5
Reconnaissance	2
FS Transports	3
Charter or Contract Transports	22
Total Aircraft	65

See Appendix, Exhibit F, Source Breakdown of Resources.

G. Agencies Engaged

The agencies engaged in this fire suppression effort were:

Bureau of Land Management, U. S. Department of Interior
Forest Service, U. S. Department of Agriculture
Nevada Division of Forestry
Nevada Fish and Game Department

H. Ownership

Ownership of the lands burned was as follows:

Federal (BLM) 147,687 acres
Private 130,472 acres

III. ANALYSIS

On this fire there were seven key points.

- A. Pre-emergency Planning. Pre-emergency planning by the three agencies included: organizing and training Indian fire-fighters, negotiations of equipment contracts for transport, line-building and air operations. It included arrangements for coordinated dispatching at the "usual" expected level of emergency. (See Appendix, Exhibit G, Mutual - aid agreements.) Only through this planning was it possible to mobilize the substantial resources promptly.

This suggests the organization and training of highly mobile units of men and equipment for war time problems. They would perform such tasks as: debris-clearing, construction of shelters, first aid, radiological monitoring and urban-area firefighting.

Pre-emergency plans provided for coordination of effort, but they were not specific as to when to coordinate. The fire overhead interviewed, brought out the need for early implementation of complete coordination. The area fire boss aggressively attacked this complex fire problem, but mostly with top management personnel from the one agency. Orders were placed for men and equipment that had been arranged for in the multiple agency plans. But these orders were not coordinated with agencies concerned.

A near-automatic signal is needed in the plan to "trigger" the activation of a coordinating team. Such a trigger might be linked to one or more factors that say when to coordinate.

Such factors are:

The time of first request for resources from a cooperating agency or department.

A four-alarm fire.

A fire burning on the protection area of more than one agency or department.

Multiple fires or starts that present an immediate problem beyond the capacity of the unit.

A threat of disaster.

Pre-emergency plans were not specific as to how to coordinate efforts of this magnitude and complexity, nor just who would do it. Discussion by the principals showed that the need was felt. In discussion they outlined an "off the cuff" solution, that would use a coordinating staff. This staff would have no real authority over cooperating agencies. Their Nevada suggestion is shown in the Appendix, Exhibit B. In setting up the coordinating center at Salt Lake City, on August 19, Jay Peterson had a tested plan. See Appendix, Exhibit H, G. H. Q. Organization outline.

- B. Job Qualification Standards - There was no inter-agency agreement for defining the qualifications of fire overhead positions. The major suppression agency soon exhausted its supply of qualified overhead. Men with untried abilities, may have been assigned "over their heads", due to the emergency and need. It became evident that job qualification standards should be the same in all coordinating services.
- C. Communications - Radio communications were depended upon heavily for direction of the firefighting forces. Radio is essential for air operations. When too much jargon of the trade, ambiguous words, or unclear terminology are used, critical radio time is used in clarification and repetition. When radio time became scarce, it emphasized the need for lucid language in all communications.
- A standard firefighting glossary, a standard radio operating procedures handbook, and a standard radio code would help users reduce their radio time.
- D. Training - Personnel from the Bureau of Land Management, the State of Nevada, and the Forest Service conducted pre-emergency training together. They had a first name relationship. They had mutual respect. This familiarity helped to generate a cooperative atmosphere. It contributed greatly to the control effort.

The joint pre-emergency training had not included complete training in such elements as organizing, coordinating, decision making, and allowance for physical fatigue and stress. Therefore, some personnel, in the heat of all-out effort, were not aware of the need for application of these basic principles.

- E. Private Cooperation - Prior to the emergency, resident ranchers and other private citizens and groups, had been invited to participate in fire training but with minor response. During the emergency, these people, in large numbers, offered their services. But with no one available to organize and train these volunteers, almost none were used. Independent ranchers' efforts were largely ineffective.

There is a considerable resource available in the general population, in any conflagration area. When a way is found to organize and direct their efforts, they can be effective.

- F. Dispatching Aids - The dispatcher and other fire overhead used various dispatchers, aids, forms, wall maps, and "tote-boards". Loose sheets of paper and notebooks supplemented the other records. The mobilized resources could have been used more effectively, if an adequate system for data-storage and recall were available. Need for a development project is indicated, to develop equipment for resources inventory, dispatch and location. A "statement of need" must be written first to design the "side boards", or the requirements.

G. Suppression Equipment - Control efforts were supported by the bold initiative of many men applying themselves to this fire problem. The pressing into service of a Turn-a-pull and a patrol-grader, for line-building, are examples. Personnel were encouraged to use bold tactics, to burn out the line, to think for themselves, to make an alternate plan, and to act on their own when communications were poor with headquarters.

Dozers were the prime line builders on these fires. With no performance figures available, it can be assumed that the rate of line construction was about 40 chains per hour in these light fuels. When steep terrain and rock, made dozers ineffective, line was built by hand. Tractor-plow units could have built plow lines, at three times the dozer rate. The use of patrol-graders and Turn-a-pulls proved that this is plowable terrain. If it is practicable to fly hundreds of firefighters a thousand miles, perhaps tractor-plow units with operators and burn-out teams can be moved by air. This suggests flying, or highly mobile, specialized units, for urban fires. Up to now such units were considered too bulky or heavy for air transport.

IV. CONCLUSIONS

It can be concluded or assumed that:

A. Pre-emergency planning aided in effective control of the fire.

It made possible the mobilization of control forces within hours. Pre-emergency plans would have been more effective if completely coordinated effort had been implemented sooner and more thoroughly.

Pre-emergency plans would have been more effective if they had stated specifically how to coordinate the effort of cooperating agencies, as the fire emergency became more serious. The plan would have been more effective if it had said what to do, who should do it, and how to go about it.

B. Arranging like duties in like positions for fire overhead in each fire service or agency will make mutual aid more effective. (Similar job qualification standards.)

C. It is helpful if fire control forces use a common terminology and nomenclature, and similar radio operating procedures. (Communications, both hardware and language.)

D. Pre-emergency, joint training aided in control of the fire. Efforts of cooperating agencies would have been more effective if joint pre-emergency training had gone farther. It should include organization for project-size fires, coordination, and stress.

- E. Pre-emergency training of fire control personnel in how to organize and train private citizens, would have made the citizens' efforts more effective.
- F. Men and equipment could have been used more effectively if there was an adequate dispatching and locator system available.
- G. Initiative in tactics and strategy by fire overhead was a factor in control of the fires. Uncommon equipment was pressed into service. There was bold burning out of fire lines.

Control efforts would have been more effective if the best tools for the job had been available and skillfully applied. Tractor-plow units could have built line in much of this terrain and soil and at a much faster rate.

V. RECOMMENDATIONS

These recommendations, developed from our analysis and conclusions, are especially significant to achieving an effective national coordinated fire capability:

A. Pre-emergency Planning. Pre-emergency planning is a necessity.

These plans should include:

1. Definition of mutual aid areas; such as the boundary of metropolitan areas, a county, a State, or a compact of states. This area would be a coordinated unit at a described level of emergency. Certain suppression forces, if not all forces therein, would be available for use anywhere in the area.
2. Definition of the coordinating method, such as:
 - (a) Selection of the coordinator and his team members (in advance).
 - (b) Statements of their authority and responsibility.
 - (c) List of overhead positions to be filled, and the job descriptions for each.
 - (d) Selection of headquarters and/or alternates.
 - (e) Communications plans
 - (f) Alternates and alternatives
3. Definition of values within the area, and guides to establishing priorities.

4. Description of hazards in the area; fuels, risk, and breaks.
5. Description of fire fighting forces available.
Include information as to mobility and use.
Include detail where needed, such as how to organize and to operate an air tanker attack.
6. Definition of when the emergency plans should go into effect. The occurrence of certain events would activate the plan. For example, any one of the following events could be the "trigger".
 - (a) A four-alarm fire.
 - (b) The occurrence of multiple fires under conditions that make it immediately obvious that the responsible agencies can not get control.
 - (c) Fires burning out of control into the second day.
 - (d) Fires occurring from enemy action within the area.
 - (e) A threat of disaster.

(See Appendix, Exhibit I, Nevada suggestion.)

- B. Uniform Job Descriptions. Two key tasks that will clarify responsibilities, reduce stress, promote effectiveness, and provide training objectives are:
1. Develop uniform overhead position descriptions.
 2. Develop uniform job qualification standards.
- C. Uniform Procedures. Uniformity in language, terminology, and radio operating procedure should be provided for speed, clarity, and better understanding. This applies between all fire services, urban, rural, and forest. These two tasks are especially important:
1. Develop a fire services glossary.
 2. Develop a radio operating procedures handbook.
- D. Training. Pre-emergency, joint training of fire services personnel should be conducted. Training should be current. It should include elements such as organizing for a large fire situation, coordinating of forces, decision-making, allowing for the fatigue factor. Use of the fire control training Simulator shows promise here.
- E. Use of Private Citizens. It should be recognized that the populace that is being sheltered and protected, is in itself a resource. Fire control personnel can be prepared to train and supervise the public in doing effective work during an emergency. Training tasks could include:

1. Avoiding the hazards connected with fire
2. Suppression tactics, small fires
3. Survival and recovery
4. Aid to the very old and the very young
5. The protection of food and water
6. The clearing of debris
7. Traffic control

F. Resource Locator System. A development project is indicated for a dispatching and locator system. The first step is a staff effort to establish criteria and write a statement of need.

G. Selection and Use of Proper Equipment. Air transport of specialized heavy equipment, such as tractor-plow units should be considered. The expense may be justified to get the right tool for the job and to get it in time.

VI. APPENDIX

Exhibit A - Copy of BLM Coordination Order

Exhibit B - Conduct of the Study

Exhibit C - Persons Interviewed

Exhibit D - Nevada Fires Data

Exhibit E - Map

Exhibit F - Source Breakdown

Exhibit G - Mutual Aid Agreements

Exhibit H - G. H. Q. Organization Outline

Exhibit I - The Nevada Suggestion

EXHIBIT A

B. L. M. COORDINATION ORDER

WWAF 033 I-LDR

WASHINGTON DC 8-18-64 1455R

STATE DIRECTOR & FIELD ADMN OFFICER BLM

MESSAGE NO. 64-83 EXPIRES 12/31/64

AN EMERGENCY FIRE COMMAND CENTER HAS BEEN ESTABLISHED IN THE FEDERAL BUILDING, SALT LAKE CITY, UTAH TO COORDINATE THE MOVEMENT OF PERSONNEL AND EQUIPMENT BETWEEN AGENCIES AND INTERSTATE MOVEMENT OF BLM NEEDS.

MR. HALL MCCLAIN WILL BE THE CHIEF LIAISON FOR BLM AND J. PETERSON WILL BE THE CHIEF LIAISON FOR FOREST SERVICE. MCCLAIN WILL HANDLE ALL REQUESTS ARISING FROM EMERGENCIES WHICH EXCEED LOCAL CAPABILITY OF BLM OFFICES. PETERSON WILL ASSIST IN OBTAINING THOSE SERVICES THAT MAY BE MADE AVAILABLE THROUGH THE FOREST SERVICE.

MR. MCCLAIN WILL CONTACT THE STATE DIRECTORS FOR AN APPRAISAL OF INDIVIDUAL SITUATIONS AS TIME WILL PERMIT. HE MAY ESTABLISH REPORTING PROCEDURES AND TIMES IN ORDER TO EXPEDITE HIS WORK. YOUR COOPERATION WITH THE COMMAND CENTER WILL BE APPRECIATED.

92B.13 (712F)

CHARLES H STODDARD DIRECTOR

VLW 1502R

CONFIRMATION COPY	
This is a confirmation copy of a message telephoned	
TO <i>JP</i>	AT <i>120 p.m.</i>
ON <i>8-18-64</i>	
GENERAL LANDS ADMINISTRATION	
TRANSPORTATION AND COMMUNICATION SERVICE	
SALT LAKE CITY, UTAH - 524-5263	
Tel. By <i>N.</i>	

USA TELETYPE
Aug 18 1 19 PM '64
SALT LAKE CITY
UTAH

EXHIBIT B

CONDUCT OF THE STUDY

CONDUCT OF THE STUDY

These steps were taken:

- A. The fire analyst arrived at Salt Lake City, 6 am, August 19, and tied in with BLM Coordinator Hall McClain and Forest Service Liaison Officer Jay Peterson. About 2 pm it was evident that the fire weather was moderating, and that coordination problems would continue to be at Elko, Nevada. The analyst departed Salt Lake City by car.
- B. On arrival at Forest Service Supervisor's Headquarters in Elko at 7:00 am on August 20, contact was made with Forest Fire Staff, George Swainston, and Forest Supervisor, W. L. "Slim" Hansen. (Besides the briefing from Forest Staff, the analyst sat in on the briefing of an out-of-Region training team by Region 4 Fire Staff men, Gil Dahl and Howard Koskella.) Supervisor Hansen was most helpful and made an appointment for 2:00 pm for the analyst to meet with and interview the following persons:

Russell Penny, State Director, Bureau of Land Management
Clair Whitlock, District Director, Bureau of Land Management
George Zappettini, Nevada State Forester
Jack Artz, Assistant Nevada State Forester
Len Hoskins, Nevada Fish and Game Department

These five men were the top management and coordination team for the Nevada fires that burned 278,159 acres of BLM and private land during the period of August 15-20.

About two and a half hours were spent in group discussion and interview with questions aimed at meeting the objectives of this study.

- C. District Director Clair Whitlock then set up appointments for the following day, August 21, for the analyst to interview other key personnel at the BLM headquarters in Elko.
- D. The evening of August 20, was spent writing up notes; the day of August 21, was spent in interviews and observations at BLM headquarters; the evening was spent in write-up of notes. August 22, Saturday, Forest Service Supervisor Hansen and Analyst Jay drove about 250 miles, viewed the BLM land and fire problems, visited the Keas Canyon Fire on the Humboldt National Forest; and interviewed Forest Service personnel at fire camps. On Sunday, August 23, the return was made to Washington and notes were reworked enroute.

EXHIBIT C

PERSONS INTERVIEWED

PERSONS INTERVIEWED ON NEVADA FIRES

Reed Roberts, Adm. Off., BLM,	Salt Lake City, Utah
Jack Reed, P.I.O., "	Salt Lake City, Utah
Mr. Nielson, Utah State Dir., BLM	Salt Lake City, Utah
Hall McLain, Coordinator, "	Salt Lake City, Utah
Jay Peterson, Coordinator, FS	Salt Lake City, Utah
Howard Koskella, Div. of Fire Control, FS	Region 4
Gil Dahl, Division of Fire Control, FS	Region 4
W. L. Hansen, Forest Supervisor, FS	Humboldt National Forest
Chas. Destry, Nevada, Air-Operations Officer	
Carl Branninger, Air Officer, FS	Region 4
Robert Carroll, Fire Control Officer, BLM	Elko District
Chester Putnam, Fire Control Officer, BLM	Burley, Idaho
Robert Ertel, Fire Control Officer, BLM	Adjacent District to Elko
Ross Ferris, BLM	Elko
Robert Smith, Dispatcher, BLM	Elko
George Swainston, Fire Staff, FS	Humboldt National Forest
Russell Penny, Nevada State Director, BLM	
Clair Whitlock, Dist. Director, BLM	Elko, Nevada
George Zappettini, Nevada State Forester	
Len Hoskins - Nevada Fish and Game Dept.	

EXHIBIT D

NEVADA FIRES DATA

NEVADA FIRES DATA

Nevada Fires, August 15-19, 1964

Elko, Nevada, 35 miles radius

Bureau of Land Management and State of Nevada were the protection agencies, with Forest Service cooperating.

278,159 acres burned, in 6 major fires resulting from 30 starts, which burned 150,000 acres the first day.

Damage \$20 per acre; \$5,563,180 total damage to land; \$2,000 damage to livestock.

No casualties.

Values threatened were; several ranches, a boys training school, hay, rangeland, winter deer range, other wildlife habitat.

This fire got large because of (1) multiple lightning starts, (2) adverse weather.

EXHIBIT E

MAP

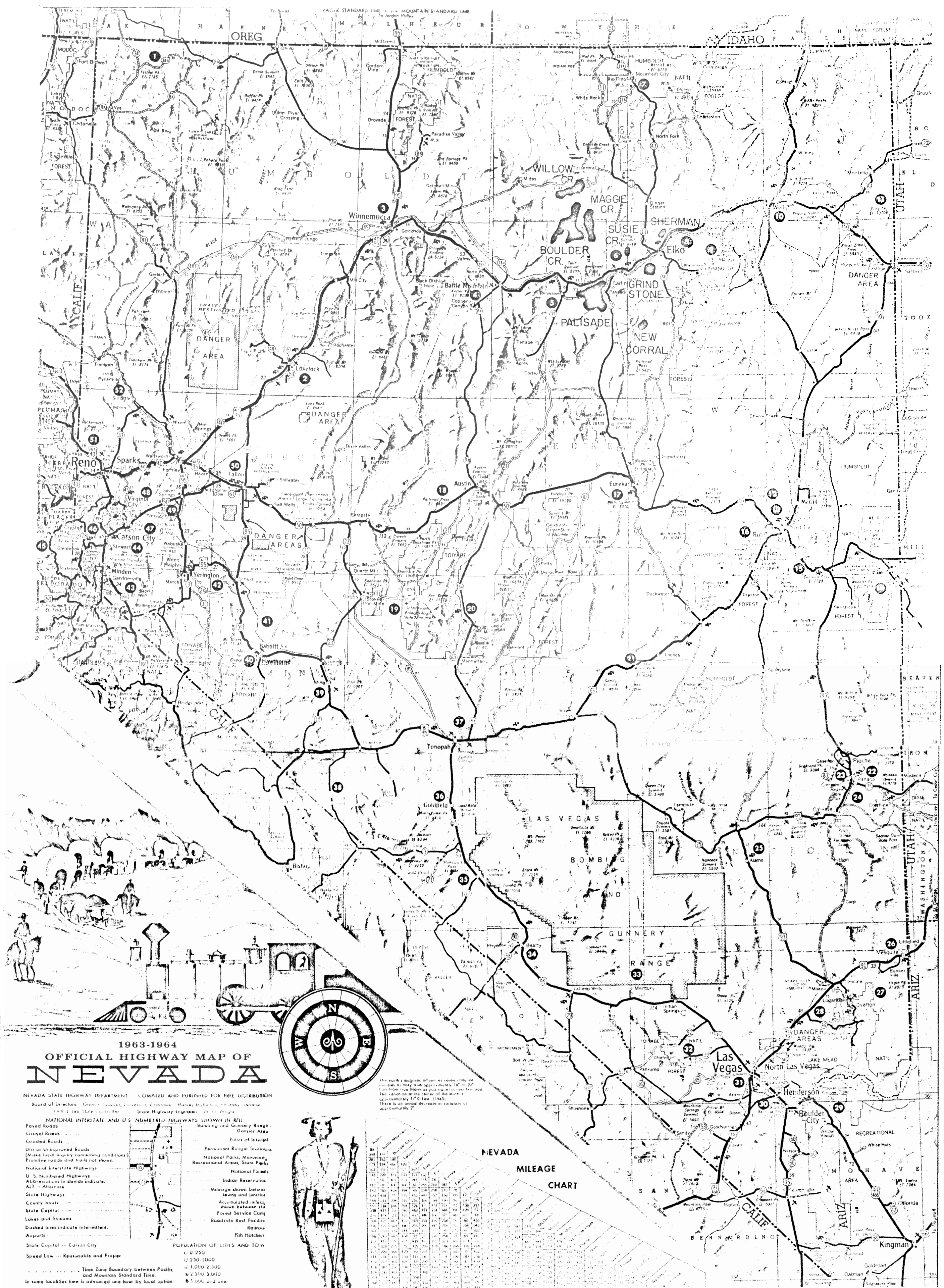


EXHIBIT F

SOURCE BREAKDOWN OF RESOURCES

EXHIBIT F

SOURCE BREAKDOWN OF RESOURCES SUPPLIED

<u>PERSONNEL</u>	<u>F.S. Regions 1, 3,4,5,& 6</u>	<u>BLM-Colo., Ariz., N.Mex., Idaho, Ore., Mont.</u>	<u>Nat'l. Park Serv.</u>	<u>Bur. of Indian Affairs</u>	<u>Nevada Nat'l. Guard</u>	<u>U.S.A.F. Stead Field</u>	<u>State of Nevada</u>	<u>Total</u>
Overhead	60	334	12	22			10	438
Special Fire Fighters	326	59						385
Smokeyjumpers	122							122
Organized Crews	733	631		235				1599
Pilots	46	30				10		86
Radio Technicians	1							1
Other Manpower		40			60	55	59	214
Totals	<u>1288</u>	<u>1094</u>	<u>12</u>	<u>257</u>	<u>60</u>	<u>65</u>	<u>69</u>	<u>2845</u>

(Note: This source breakdown was developed from data furnished by BLM. These figures could not be reconciled exactly with BLM totals, so should be considered as estimates.)

EXHIBIT F

SOURCE BREAKDOWN OF RESOURCES SUPPLIED

<u>EQUIPMENT</u>	<u>F.S. Regions 1, 3,4,5, & 6</u>	<u>BLM-Colo., Ariz., N.Mex., Idaho, Ore., Mont.</u>	<u>Nat'l. Park Serv.</u>	<u>Bur. of Indian Affairs</u>	<u>Nevada Nat'l. Guard</u>	<u>U.S.A.F. Stead Field</u>	<u>State of Nevada</u>	<u>Other Non- BLM</u>	<u>Total</u>
Tankers		17					2		19
Trucks		37			24	6	8	11	86
Pickups & Carryalls		69				6		41	116
Transports		8				1		32	41
Buses								20	20
Tractors	18	11				2		50	81
Radios	32	29							61
Field Kitchens	1				2				3
Slurry Mixing Plant	1								1
Air Transports	4							10	14
Light Planes	3							1	4
Air Tankers								21	21
Helicopters						5		24	29

EXHIBIT G

MUTUAL AID AGREEMENTS

MUTUAL AID AGREEMENTS

These were the agreements in effect between agencies:

1. Memorandum of understanding between the Bureau of Land Management, United States Department of Interior and Forest Service, United States Department of Agriculture. Signed February 21, 1963. Copy in Forest Service Manual, 5173.11a.
2. Cooperative agreement between Forest Service, Region-4 at Ogden, and Nevada Division of Forestry, 6-29-62.
3. Interagency Air Operations' Plan BLM, Elko, Humboldt National Forest, and Nevada Division of Forestry, CX 1964.
4. Annual Operating Plan, BLM, and Humboldt National Forest based on cooperative agreement BLM, Nevada, and Forest Service, Region-4. (9217.14)
5. Annual Operating Plan, Humboldt National Forest and Nevada Division of Forestry, for period July 1, 1964 to June 30, 1965.
6. 1964 Fire Plan, Owyhee District, Nevada Fish and Game Commission (showing how Fish and Game people help with fire).

Copies of No. 1, 3, 4, 5, and 6 above are enclosed.

MEMORANDUM OF UNDERSTANDING
between the
BUREAU OF LAND MANAGEMENT
UNITED STATES DEPARTMENT OF THE INTERIOR
and the
FOREST SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

Public land under Forest Service management responsibility and public land under Bureau of Land Management responsibility are often intermingled and, therefore, not always located so as to permit the responsible managing agency to provide the best possible fire protection. It is advantageous for each agency to contract with the other for fire protection of certain public lands under their jurisdiction. The lands involved in these contracts are located in several different States and Forest Service Regions. The areas and cost per acre are subject to change each year due to disposition of land and innovations of equipment and facilities.

It appears desirable to have these contract revisions and renewals negotiated by the administrative units involved. Therefore, it is mutually agreed:

1. That the State Directors of the Bureau of Land Management and the Regional Foresters of the Forest Service will take the full responsibility of negotiating all phases of the annual memoranda of agreement on the acreage, cost and payment of the fire control contracts within their respective States and Regions.
2. That all cooperative fire control agreements such as areas of action, reporting procedures, mutual aid, and use of personnel and equipment be implemented at the field level by State Directors and Regional Foresters.
3. This memorandum of understanding supersedes Cooperative Agreement No. 1 lg-40725 of June 18, 1946, signed by Fred W. Johnson, Commissioner, General Land Office, and Lyle F. Watts, Chief, Forest Service.
4. That this memorandum of understanding shall become effective upon date of approval by the Director of the Bureau of Land Management and the Chief of the Forest Service, and shall continue in effect until 30 days after written notice of a desire to terminate it is served on either of the Signatories by the other; provided, that no notice of termination shall be given between the dates of March 1 and October 31 of any year except by mutual consent.

Approved:

/s/ KARL LANDSTROM
Director, Bureau of Land Management

Date: February 11, 1963

/s/ HAMILTON K. PYLES
Acting Chief, Forest Service

Date: February 21, 1963

INTERAGENCY AIR OPERATIONS PLAN

CY 1964

This plan is entered into by the Bureau of Land Management, Elko, the Humboldt National Forest, Elko, and the Nevada Division of Forestry, Elko.

The objective of this plan is to provide effective and coordinated use of the air tankers for wild fire suppression in Elko County.

The Plan shall take effect on July 1 and shall continue in force until the close of the fire season - normally October 1st.

Should any party desire to keep the air tanker stationed in Elko beyond October 1 because of continued fire danger conditions, that agency will assume full cost of any standby time required by that agency.

One 600-gallon capacity air tanker will be based at the Elko Airport for fire suppression purposes. It may be used by the three agencies. BLM will be responsible for all payments to the aircraft contractor and will be reimbursed in full for any flying hours requested by the other parties. In the event the flying hours do not equal 10 hours per month, the remaining hours will be considered standby and the cost of the hours will be shared by the Forest Service and the BLM at the following rates:

BLM-	- - - - -	70%
F.S.	- - - - -	30%

Provided the air operation is begun or terminated on other than the first or last day of the month, payments of standby will be only for the fraction of the month the aircraft is operational.

Aircraft and pilot will meet minimum standards and qualifications required by the F.S.; N.D.F.; and B.L.M., and both aircraft and pilot qualifications will be checked by the F.S. and N.D.F., or their agent. Normal standby hours for pilot and plane will be from 1000 hours to 1900 hours unless otherwise requested by a participating agency.

Retardant (bentonite) will be furnished by N.D.F. contractor and stored with mixing and loading facilities at the Elko Airport. N.D.F. will be responsible for routine maintenance and loading operation.

For sustained operations, the central dispatch office will contact N.D.F. Reno Office, who will notify contractor to fly personnel to continue mixing and load. In case of plant breakdown, the contractor will be responsible for immediate repairs.

The Central Dispatch office will be responsible for routine time keeping on use of aircraft and tabulation of bentonite used. In the event of sustained operations, the using agency will be responsible for having a

man at the airport for record keeping. A copy of these records will be furnished the Central Dispatch office for coordination in billing.

Cost of bentonite used will be paid to N.D.F. by BLM, who in turn will bill the using agency.

The plane will be kept at the Elko Airport and not released without the mutual consent of all parties. The agency having a going fire will have priority of use.

Additional aircraft may be obtained from Minden Airport through F.S., Toiyabe N.F., and from Boise, Twin Falls, or Salt Lake City, through Regional Dispatcher, Region 4, F.S., Ogden, Utah.

Vestal Bloxham, Elko County Fire Warden

George Zappettini, State Forester
Nevada Division of Forestry

W. L. Hansen, Forest Supervisor
Humboldt National Forest

Clair M. Whitlock, District Manager
Bureau of Land Management, Elko

ANNUAL OPERATING PLAN
BETWEEN
BUREAU OF LAND MANAGEMENT - ELKO DISTRICT
and
THE HUMBOLDT NATIONAL FOREST - ELKO

This plan is entered into between the District Manager, Elko District, Bureau of Land Management, hereinafter referred to as the BLM; and the Humboldt National Forest, hereinafter referred to as the FS.

The objective of this plan is to provide for mutual assistance of the BLM and the FS in fire prevention, fire control, and related activities.

Authority for this plan is the Cooperative Agreement dated December 20, 1962, between the Bureau of Land Management, Nevada State Office, and the Forest Service - Region Four.

NOW, THEREFORE, it is mutually agreed that:

1. Protection Organization

Each agency will furnish the other with seven (7) copies of their respective organization's Fire Plan. This plan to give the name and location of fire overhead personnel, location of standby crews and fire equipment. (If significant changes develop in the organizations, each party will so notify the other of such changes).

2. Fire Suppression Action

The attached map, which is made part of the plan, outlines the initial attack zones of each party. When such initial action is taken, the proper officials of the other party shall be notified immediately as to the action. The initial attack force will not incur expenditures of more than \$2500 without notifying the other party and obtaining their consent.

The party with jurisdictional responsibility shall relieve the initial attack force as soon as practical. Any further fire fighting arrangement beyond initial attack will be arrived at through joint consideration of the responsible fire control personnel of each agency.

In addition to the mapped initial attack areas, each agency may take initial action on fires occurring on lands of the other within one (1) mile of the common boundary either upon that agency's initiative or upon request of the agency having jurisdiction over the lands involved.

In the event both agencies become engaged in a boundary line fire or a fire whose precise location is unknown, the fire control officer who arrives first will serve as acting fire boss. At such time as the location and extent of the fire is known, the fire boss responsibility will be mutually agreed upon. This will, normally, be the ranking officer of the agency on whose land the largest area of fire is burning or threatened; however, this does not preclude a situation where the fire boss position may be shared by the two ranking officers, if they so elect.

3. Mutual Aid

Upon request, either party will render assistance in fire suppression to the other party, when such action will not leave lands under its jurisdiction unduly exposed to fire danger.

4. Reimbursement

When a fire burns entirely on the lands of one agency, that agency will reimburse the other for all expenditures incurred by it.

On boundary fires in which both agencies cooperate in fire suppression, costs will be determined and prorated in accordance with the percentage of land burned. This will be mutually determined within 48 hours of the time the fire is controlled by responsible officers on the ground.

Reports and claims will be made in the manner indicated and within the prescribed time, as determined in the Cooperative Agreement, dated May 15, 1963, between the two agencies.

5. Air Operations

Both the FS and BLM will participate in air tanker operations as outlined in a separate air operations plan. This plan will include dispatching, retardant, maintenance records, costs, and reimbursement.

6. Central Dispatch

Both the FS and BLM will participate in a central fire dispatch operation as outlined in a separate plan.

7. Closure

It is unlikely that fire closures will be deemed necessary or practical. However, if the need does develop for a closure affecting both agencies, all conditions of closure will be mutually agreed upon prior to request for such action.

8. Burning Permit

Each agency will be responsible for issuance of burning permits on lands under its jurisdiction. However, in cases where permits are issued near common boundary areas, the other agency will be notified.

9. Law Enforcement

It will be the primary responsibility of the agency upon whose land the fire originates to take law enforcement action.

When initial attack is made by other than the responsible agency, that second agency will immediately gather and preserve evidence pertaining to the cause of the fire for the responsible agency.

APPROVED:

BUREAU OF LAND MANAGEMENT

By _____

Date

District Manager

Title

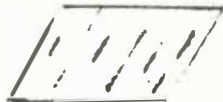
HUMBOLDT NATIONAL FOREST

By _____

Date

Forest Supervisor

Title



F.S. INITIAL ATTACK AREAS FOR BLM

1964 OPERATING PLAN

R 54 E

R 55 E

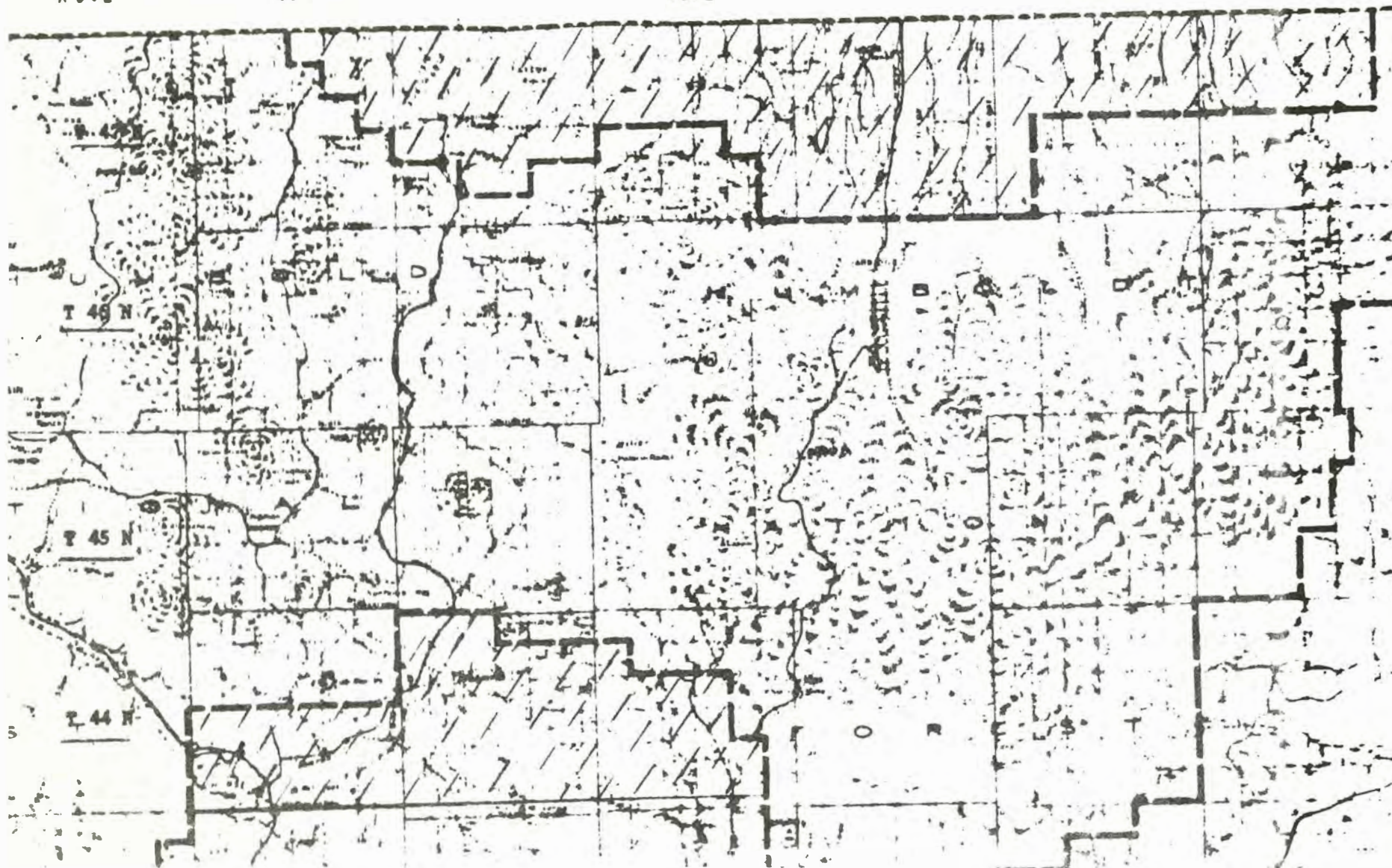
R 56 E

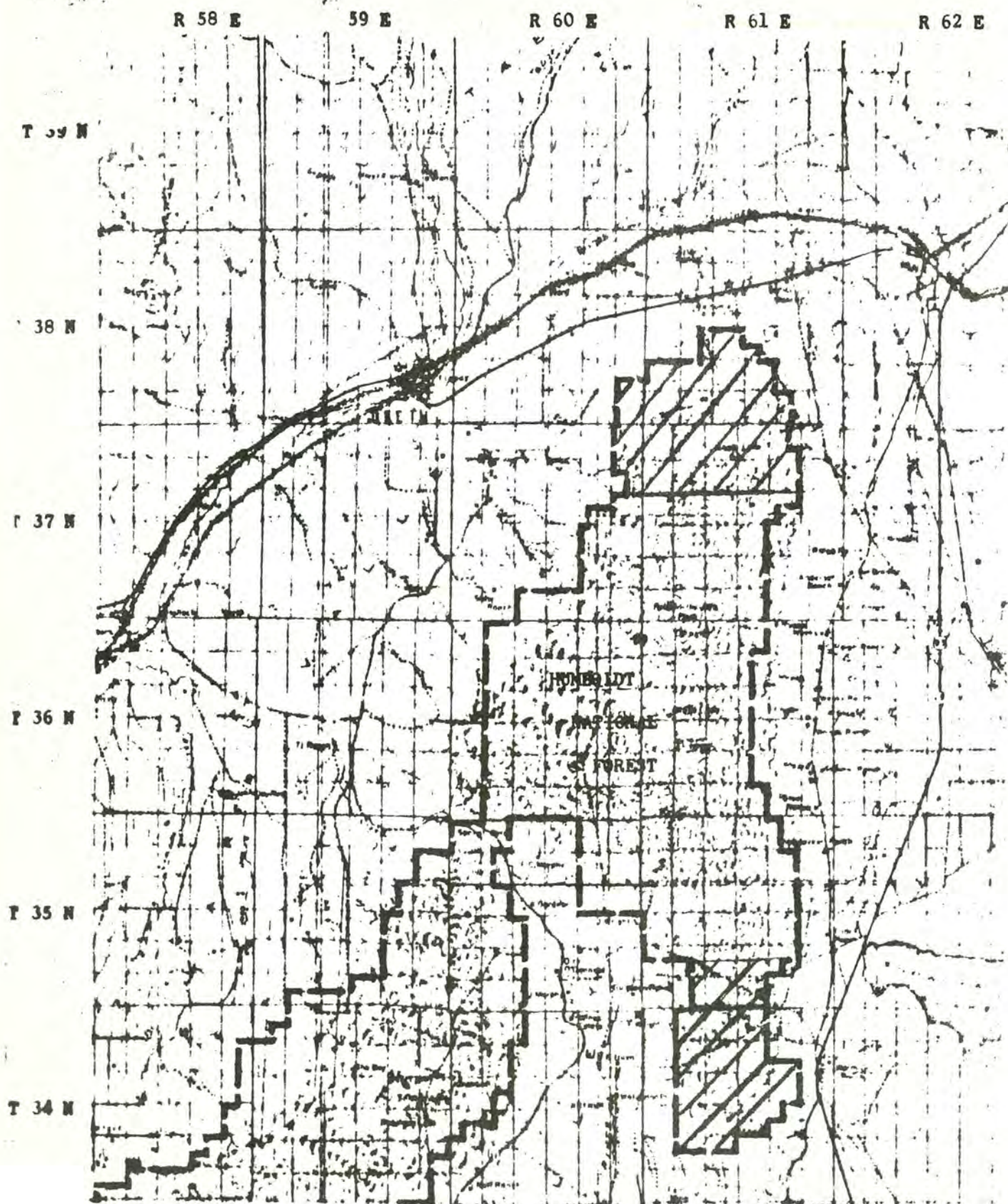
R 57 E

R 58 E

R 59 E

R 60 E





BLM INITIAL AREA FOR F.S.

1964 OPERATING PLAN

ANNUAL OPERATING PLAN
HUMBOLDT NATIONAL FOREST AND NEVADA DIVISION OF FORESTRY
for period July 1, 1964 to June 30, 1965

As provided for on page 2, item 6; page 4, item 10; and page 5, item 13; of Cooperative Agreement between the Regional Forester, U.S.D.A.; Forest Service, Ogden, Utah; and the State of Nevada, Division of Forestry, entered into the 29th day of June, 1962, a meeting was held April 10, 1964 to decide on protection areas, boundaries and a written operating plan for the 1964 fire season.

It was mutually agreed that:

1. Protection Areas:

The Humboldt National Forest will provide protection for all National Forest lands under their jurisdiction and, in Elko County, will take initial action, continuing until relieved, on private lands within the National Forest and on private lands adjacent to or threatening National Forest lands.

The Division of Forestry will provide full protection to all private watershed lands in Elko County except as noted above and will take responsibility for private land fires within or adjacent to National Forests in Elko County when advised of the fire by the Humboldt National Forest or by others.

The Division of Forestry has no direct fire protection responsibility outside of Elko County in the counties containing Humboldt National Forest lands. However, the Division will assist the Forest Service in suppression activities on request on a reimbursable basis and will assist in developing protection programs involving State and private lands when possible.

2. Protection Organization:

The Humboldt National Forest will furnish the State with four copies of the Forest Mobilization Plan. The State will furnish the Humboldt National Forest ten copies of the Annual Northeast Nevada District Fire Directory and applicable portions of or changes to State field annual.

3. Fire Suppression Action:

- a. When fires occur adjacent to protection boundaries common to both parties or burn on both sides of a common boundary, the following action will be taken:

- (1) The forces of either agency will make prompt initial attack on any fire occurring adjacent to the boundary.
 - (2) The ranking officer of either agency on a fire will initiate control action. He will remain in control until relieved by a ranking officer of the responsible agency or until control has been effected.
 - (3) When a fire burns on both sides of a common boundary the ranking officers of each agency will mutually agree to the appointment of a fire boss who will have complete control of organizing and managing fire fighting resources available to control the fire. Overall strategy and expenditures of fire fighting funds will be agreed upon by the ranking officers of both agencies and the fire boss.
- b. On fires occurring on or threatening private lands within or adjacent to the Humboldt National Forest in Elko County, the Forest Service assumes responsibility for initial attack and follow-up action during the first burning period or until it becomes apparent that suppression costs will exceed limits established under item 5 of this operating plan. When this happens, joint action as outlined under 3.a (3) above, will apply.

4. Reimbursement Procedures:

Established wage scales for fire fighters and rates for hire of trucks, tractors, and other fire equipment for each agency will be used by the other agency when men or equipment are used on fire suppression within the protection area of the other.

When submitting bills for collection, covering suppression costs incurred under the terms of this agreement, the following breakdown of costs will be reported under the following titles:

- (a) Payrolls, casuals
- (b) Payrolls, regular agency fire fighting personnel
- (c) Payrolls, supervisory personnel
- (d) Per diem and travel
- (e) Rental, agency owned equipment
- (f) Rental, privately owned equipment
- (g) Subsistence
- (h) Supplies
- (i) Telephone toll charges

Subtitles may be used as needed to further expand the outline for principal cost items.

Under each title or subtitle (if used) individual payments will be itemized. Each entry will show to whom the payment was made and the amount. Indenture will be made of type of service, supplies, or subsistence received.

Costs will be summarized by title to arrive at the grand total of fire fighting costs.

Supervisory personnel payrolls will be broken down to show base time and overtime. Personnel included in this group will generally include for the Forest Service, Humboldt Forest Supervisor, or Supervisor's Staff officers and District Rangers; and for the State, the State Forester, or his staff, and the County Fire Coordinator. It would also include any special overhead teams furnished by one agency for the other.

Supervisor payroll costs will generally be reimbursable on the following basis:

- (a) Suppression costs less than \$600 (\$1200 when air tanker used on initial attack) overtime pay only.
- (b) Suppression costs more than \$600 (\$1200 when air tanker used on initial attack) base and overtime will be included in suppression costs and reimbursement handled on set acreage burned.

5. Expenditure Limitations:

Expenditures for fire suppression by one agency on lands of the other shall not exceed \$600 for any one fire without advance approval of the responsible agency, except when air tankers are used for initial attack, then maximum will be \$1200.

6. Loan of Fire Tools:

Each agency will make fire tools available for fire suppression, or to the extent possible without curtailing its own suppression efforts. The using agency will replace the borrowed tools or return them reconditioned.

7. Burning Permits:

The Forest Service will be responsible for issuing Burning Permits on National Forest land, the Division of Forestry for issuing Burning Permits on private watershed lands in Elko County. With permission of the Forest Supervisor and with concurrence and instructions from the County Fire Coordinator, District Rangers may issue State Burning Permits for private lands within and adjacent to National Forest lands where this is practical and desirable.

8. Fire Closures:

If need for a closure arises during the fire season effecting both agencies, all conditions of closure will be mutually agreed upon prior to request for such a closure.

9. Air Operations:

Cooperative air tanker facilities at the Elko Airport are covered by a separate agreement:

Annual Operating Plan
S.N.F. & M.D.F.

APPROVED BY:

NEVADA DIVISION OF FORESTRY

GEORGE ZAPPETTINI
State Forester

6/8/64
DATE

HUMBOLDT NATIONAL FOREST

W.L. HANSEN
Forest Supervisor

June 8, 1964
DATE

1964 FIRE PLAN - OWYHEE DISTRICT
NEVADA FISH AND GAME COMMISSION
Elko Airport, P.O. Box 1087
Elko, Nevada
Phone: 738-5332

I DISTRICT DESCRIPTION

All of Elko County plus Lander County north of Highway 40, Eureka County north of the 40th parallel and that portion of White Pine County within the Ruby Mountain division of the Humboldt National Forest. (See Attached Map)

II DISTRICT PERSONNEL

See attached List, Page 2

III DISTRICT EQUIPMENT

See attached List, Page 2

Note: The Central Fire Dispatch Center, manned 24 hours per day during fire season, will have radio contact with all radio equipped Fish and Game equipment in the field. The Central Fire Dispatch Center phone is 738-3324.

IV FIRE TOOLS

All District field vehicles are equipped with at least the following: 1 shovel, 1 pulaski, 1 canteen, 1 flashlight and 3 rations. These are for emergency use only. Employees will be accountable for these to the issuing agency. When items are used, damaged or lost, replacements will be secured as quickly as possible. Employees, when going for replacements, must be prepared to explain in writing their losses. All District personnel will draw their equipment from the Interagency Dispatch Center, Elko.

V INSTRUCTIONS

- A. - Prevention: All District Personnel are instructed to take every opportunity to educate sportsmen, children and other normal contacts, in fire safety and fire laws, in course of normal activity and to assist local fire agency personnel in fire prevention activity.
- B. - Training: All District Personnel will participate in at least one fire training session annually to be arranged by the Division of Forestry. The District will also attempt to send personnel to appropriate local fire agency fire schools when possible.

NEVADA FISH AND GAME COMMISSION

OWYHEE DISTRICT

<u>STATION</u>	<u>NAME</u>	<u>TITLE</u>	<u>PHONE</u>		<u>RADIO</u>	<u>TYPE OF</u>	<u>ADDRESS</u>
			<u>RESIDENT</u>	<u>BUSINESS</u>	<u>CALL</u>	<u>VEHICLE</u>	
Elko	Leonard Hoskins	District Supervisor	738-6402	738-5332	4100	Stawgn.	1342 Cedar St.
	Ed Scovill	District LE Officer	738-5405	738-5332	*4426	Scout 4WD	Elko (Shangrila Tr. Ct.)
	Nick Papez	Wildlife Manager	753-2411	738-5332	4211	P/U 4WD	Lamoille
	Don Dobel	Wildlife Manager		738-5332	4202	Scout 4WD	
	Bill Nisbet	Wildlife Manager	738-5475	738-5332	4311	P/U 1/2 Ton	229 West Fir
	Patrick Coffin	Conservation Agent	738-6714	738-5332	4412	P/U 4WD	Elko (Shangrila Tr. Ct.)
	Wallace James	Conservation Fldmn II	738-5598	738-5332	4425	P/U 1/2 Ton	Elko
	Harry Elliot	Conservation Fldmn II	738-5305	738-5332	4214	P/U 4WD	Elko
	Unassigned	Unassigned	- -	- -	- -	4WD	Elko
Carlin	Harley Seeman	Conservation Agent	- -		4214	P/U 1/2 Ton	Battle Mountain
Wells	George Tsukamoto	Conservation Agent	752-3478		4411	P/U 1/2 Ton	Wells
Ruby Hatchery							
	David Buck	Station Superintendent		26J31		P/U 1/2 Ton	Ruby Hatchery
	Gerald Mowery	Conservation Fldmn I		26J31		Ft. Bd.	Ruby Fish Station
						2 Ton	
	Edgar Minton	Conservation Fldmn I		26J31		Ft. Bd.	Ruby Fish Station
						3 Ton	
	Robert Means	Conservation Agent		26J31			Ruby Hatchery
	Normand Raymond	Conservation Agent		26J31			Ruby Hatchery

*Note: Units with Highway Patrol Radios

INSTRUCTIONS (continued)C. - Fire Law Enforcement:

1. All District field personnel will carry Deputy State Fire-warden cards.
2. All District personnel will be familiar with State and fire district laws and regulations. Copies of fire laws will be furnished to each field employee.
3. District fire law enforcement policy shall be to take action on all observed or suspected violations as follows:
 - a. Report details of all violations to the Bureau of Land Management of U. S. Forest Service in Elko.
 - b. When a violation does not cause serious results and violator is cooperative and, in the opinion of the officer, more is to be gained by treating as a prevention or educational contact, an arrest need not be made.
 - c. If the Officer deems an arrest or further investigation is advisable, he will take necessary action himself, or, give full details to the Bureau of Land Management, Elko, or a local fire officer, so that necessary action may be taken by them.
4. District personnel will, when necessary, serve as witness in fire law prosecutions.

D. - Reporting Fires: District personnel will take prompt action in reporting fires. When radio contact can be made, this should be to the Interagency Dispatcher or if not possible, to the District Officer or Elko Sheriff's Office. By phone, fires should be reported collect to the Interagency Dispatcher 738-3324, or, when this station is not manned, to the Elko Sheriff's Office. Occasionally for fires on the National Forests, it may be more direct to contact a Ranger Station directly. This is permissible.

Fire reports should include the following information:

1. Your name and agency.
2. Where you are calling from.
3. Location of fires by section, township and range and by direction and distance from well-known landmark.
4. Directions to get to fire.

V INSTRUCTIONS (continued)

D. - Reporting Fires: (continued)

5. Your size-up of the situation including size, fuels, topography and local weather conditions.
6. The action you can take and recommended action to be taken by the fire agency.

E. - Normal Action on Sighting Fire or Receiving Fire Report From Other Than a Fire Officer - The following will be the normal action of District Personnel:

1. Report to Fire Agency.
2. Investigate and size-up conditions.
3. Report again, if possible, to Fire Agency.
4. Take suppression action independently or in charge of volunteers until fire officer arrives.
5. When fire officer arrives, report conditions and actions taken. Give assistance to fire officer as he requests. Report or have him report your location and activity to your District Supervisor.
6. If fire is put out before fire officer arrives, prepare fire report in full before leaving, including names, addresses and times of all volunteers; report to Bureau of Land Management, Elko, or local fire officer; return to normal duty and dispatch by the most direct means, one copy of the fire report to District Headquarters and one to Bureau of Land Management, Elko, or the local fire agency office.
7. Before leaving a fire where a fire officer has taken over and released you, fill out a fire report, leave one copy with the officer in charge and submit one copy to District Headquarters.

VI REQUESTS FOR ASSISTANCE FROM FIRE AGENCIES:

All requests for District assistance will be made to the District Supervisor or his delegated officer in charge, except when personal field or radio contact is made between a fire agency officer and District personnel. In this case District personnel are authorized to give any reasonable assistance. However, the District Supervisor must be notified as soon as is practical.

VII REIMBURSEMENT PROCEDURES

The Division of Forestry has agreed to reimburse the Fish and Game Commission for fire suppression overtime of Commission personnel and for

VII REIMBURSEMENT PROCEDURES (continued)

equipment operating expenses at normal Commission rates for mileage actually necessary to suppression activity. In some cases, the Division of Forestry, through agreements, will be reimbursed for these actual expenses by another responsible fire agency.

Payment to District employees and reimbursement to the Commission will be made on the basis of the fire report made out at the fire, by the District employee, and submitted to District Headquarters. District will submit this report to Commission Headquarters in Reno where payments and reimbursements will be arranged. Overtime payment to District personnel will be at employee's regular hourly rates.

The copy of fire report submitted directly to the fire officer on the scene or at local headquarters is an information copy and is not to be used for reimbursement.

VIII MISCELLANEOUS

1. - District employees are instructed to take all opportunities to become acquainted with all local fire agency personnel and their operations and to cooperate with them in all ways possible. In turn, District employees should not hesitate to request assistance from fire agency personnel.

EXHIBIT H

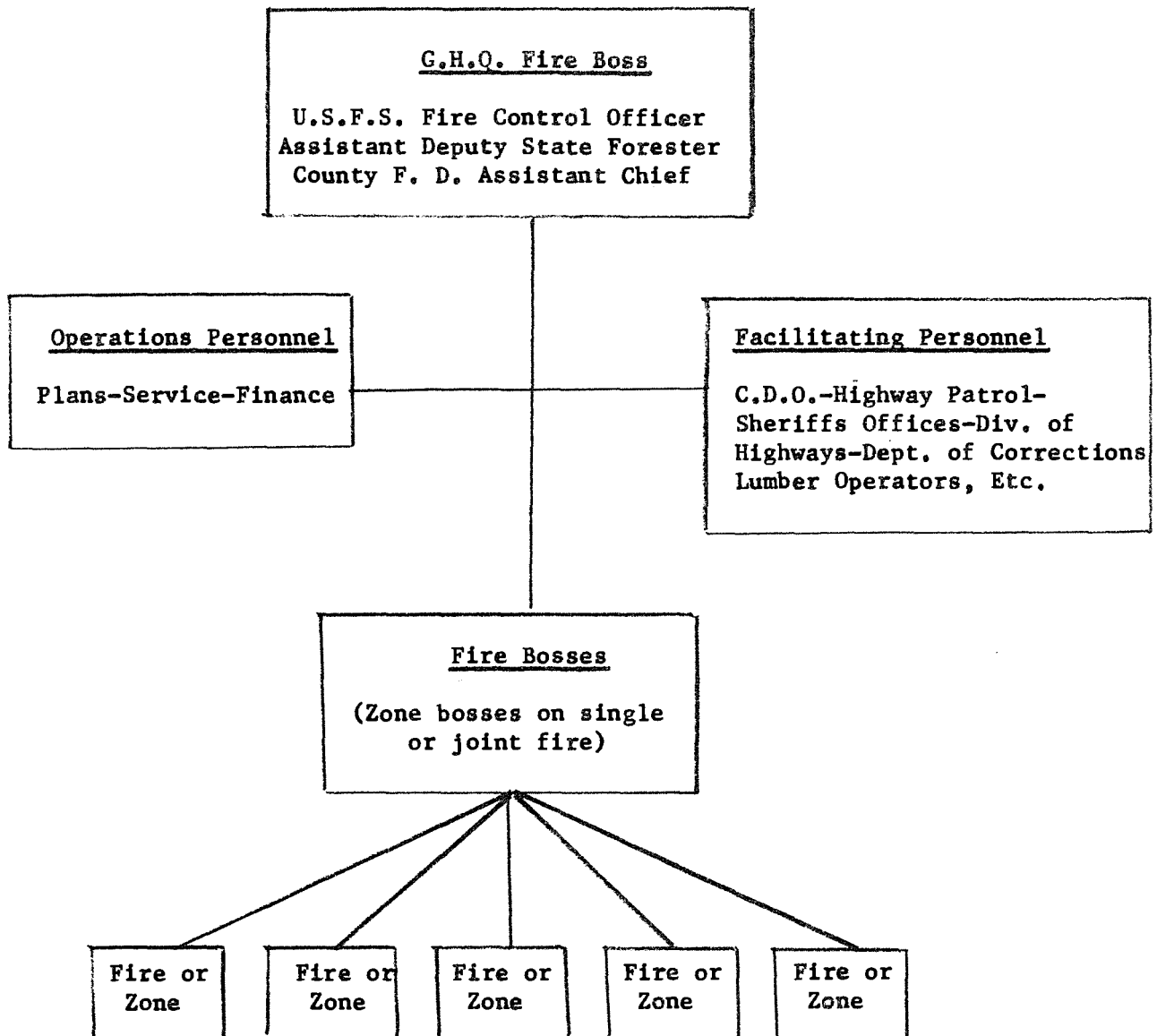
G. H. Q. ORGANIZATION

G.H.Q. ORGANIZATION

(Can be adapted to Zone or Joint Responsibility Fires)

Advisory

Forest Supervisor
Deputy State Forester
Regional & State Forester
County Fire Chief
National Park Superintendent



G.H.Q. PERSONNEL

(Each with desk and separate telephone communication and usually radio communication)

- G.H.Q. Fire Boss -
1. Sets priorities
 2. Assign firefighting resources
 3. Decide overall strategy
 4. Select Fire Bosses or Zone Bosses
 5. Make necessary shifts in men and equipment
from one Zone to another

Operations Personnel

Service and Supply Section - (U.S.F.S. Fire Desk)

Supply Officer - Service and supply to all fires or in case of joint fire to all fire camps.

Purchasing and delivering.

Equipment Officer - Transportation of men and equipment, maintenance, service and repair equipment, maintain motor pool.

Communications - Radio and telephone to all fires (or fire camps) and cooperators.

This section reports and adjusts all needs, changes, and excesses (demobilization) of manpower and equipment. Keeps in contact with Dispatchers.

Service and Supply Section - (C.D.F. Fire Desk)

Performs above duties for State operated camps and crews.

Service and Supply Section - (County F.D. Fire Desk)

Performs above duties for County operated camps and crews.

Plans Coordinator - (F.S., C.D.F., Co.) - other agency personnel required on joint fire or fires.

A. Maps and Records - one for each fire

1. Manpower and equipment inventory
2. Intelligence-gathers and reports information
3. Keeps progress record of each fire, keeps other agencies posted
4. Obtains and posts fire weather predictions for all fire areas
5. Maintains contact with Dispatchers

Air Support Coordinator (F.S.-C.D.F.) on joint fires

Coordinates all F.S. and C.D.F. air support except helicopters at all air bases (Air Net radio system)

Information Coordinator - (F.S.-C.D.F.-Co.)

Obtains daily progress, manpower, equipment, and current events data.

Keeps other agencies informed.

Keeps press informed.

Answers queries - public and official.

Meets press correspondents.

Liaison Chief (F.S.-C.D.F.)

Keeps the fire management informed of all manpower and equipment of cooperating agencies or organizations which is available for assignment.

Keeps currently informed as to needs and requirements of the various cooperating groups through assigned liaison officers.

Keeps posted on the plan and control progress of the fire.

Keeps representatives of cooperating agencies informed of strategy meetings at which their attendance is desired.

Comptroller (Finance Chief)

Correlates timekeeping contracts, payments, compensation for injury, obligations, etc.

Facilitating Personnel (Cooperating Agencies)State Highway Patrol Desk - 24 hour service

Communications with headquarters and field units. Telephone and radio (own frequency). Traffic control along all highways.

State Division of Highways Desk - 24 hour service

Communications with headquarters and field units. Telephone and radio (own frequency). Closure of highways and maintenance of highway blockades.

County Sheriff's Department - 24 hour service

Communications with headquarters and field units. Responsible for evacuation and prevention of looting.

California Disaster Office Desk - 24 hour service

Telephone service to mobile communication units. Maintains records of Civil Defense equipment. Works with fire agency liaison officer in maintaining Civil Defense tanker pool.

Research

Technicians from Pacific Southwest Forest and Range Experiment Station to make studies and observations. Keeps plans posted on predicted fire behavior.

Weather Bureau

Prepares regular forecasts and special fire weather forecasts for special areas.

Depending upon the situation and the location of the fire or fires, other agencies or organizations may become involved such as lumber companies, Red Cross, Salvation Army, Military and National Guard, Utility Companies, Land Owners, Department of Employment, etc. Under these circumstances, facilitating personnel representing these groups should be assigned to G.H.Q. with adequate communication facilities to serve their needs.

EXHIBIT I

THE NEVADA SUGGESTION

NEVADA SUGGESTION TO EXPEDITE THE COORDINATION OF EFFORT DURING FIRE EMERGENCIES

This tentative proposal evolved during a discussion by agency personnel, immediately following the Nevada Fires of August 15-19, 1964.

It would create a staff position at state level, in the office of the State Forester. This "Coordination Advisor" would have such job requirements and duties as the following:

1. Have no real authority over cooperating fire services.
2. Maintain current lists of fire fighting resources.
3. Assist the cooperating fire services in the preparation of fire plans and fire coordination plans, at all levels of operation.
4. Assist with fire training.
5. Work toward uniformity in a job qualification system. (Such as Red Cards.)
6. Work toward uniform job descriptions for fire overhead.
7. Work toward uniformity in fire control nomenclature and radio operating procedure.
8. Have knowledge of factors that contribute to fire conflagration conditions, such as: weather, lightning storms, hazards, and risk.
9. Would be alert to fire emergency situations developing; would go to the scene; and would counsel with fire service personnel as to when to activate the coordination plan.
10. During the emergency, he would serve in any position assigned by the coordinator or coordination team in charge.